Welcome!

We greatly appreciate your purchase of the MT115-111 Dual Twisted Pair Receiver to Computer/Component Video + Audio. We are sure you will find it reliable and simple to use. Superior performance for the right price, backed by solid technical and customer support is what ALTINEX has to offer.

We are committed to providing our customers with Signal Management Solutions® to the most demanding audiovisual installations at very competitive pricing and we welcome you to join the ranks of our many satisfied customers throughout the world.

1. Precautions and Safety Warnings

Please read this manual carefully before using your MT115-111 and keep it handy for future reference. These safety instructions are to ensure the long life of your MT115-111 and to prevent fire and shock hazards. Please read them carefully and heed all warnings.

1.1 General

- Qualified ALTINEX service personnel or its authorized representatives must perform all service.

1.2 Handling

- Handle the MT115-111 carefully. Dropping or jarring can damage the card.
- The MT115-111 contains components that are sensitive to electrostatic discharge (ESD). Always use ESD safety precautions when touching the card.
- To prevent fire or shock, do not expose this unit to water or moisture. Do not place the MT115-111 in direct sunlight, near heaters or heat-radiating appliances, or near any liquid. Exposure to direct sunlight, smoke, or steam can harm internal components.
- Do not pull any cables that are attached to the MT115-111.

1.3 Cleaning

- Clean only the connector area with a dry cloth. Never use strong detergents or solvents such as alcohol or thinner. Do not use a wet cloth or water to clean the card. Do not clean or touch any component or PCB.

1.4 FCC Notice

- This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
- This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions found herein, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.
- Any changes or modifications to the unit not expressly approved by ALTINEX, Inc. could void the user's authority to operate the equipment.

2. Installation Procedures

Step 1. Determine the appropriate switch settings using Diagram 3 on page 6.

Step 2. Turn off power to the MultiTasker system and disconnect from AC power.

Step 3. Remove an unused slot cover (MT200-101). Identify the slot number and note that it is for RS-232 control.

Step 4. Slide the MT115-111 into the enclosure in order to connect it to the bus. Make sure that the card fits into place and secure the card by tightening its retainer screws.

Step 5. Restore power to the MultiTasker enclosure. The LEDs for each input should be on and red.

Step 6. Connect the computer/component video and audio devices to Outputs 1 and 2.

Step 7. Connect the 4TP IN1 to the output of its Twisted Pair transmitter. If a properly formatted input signal is available, the input LED will turn green.

Step 8. Connect the 4TP IN2 to the output of its Twisted Pair transmitter. If a properly formatted input signal is available, the input LED will turn green.

Step 9. The MT115-111 is ready for operation.

Step 10. Video equalization is provided to fine tune the displayed image on the remote display. The equalization adjustments on the MT115-111 and Twisted Pair transmitter work together. Adjust equalization by setting both the transmitter and receiver to minimum. Then slowly increase the equalization on the receiver until an image is present. Then adjust the equalization on both units for the best image.

Step 11. The MT115-111 also has video gain adjustment capability through RS-232 control.

3. Limited Warranty/Return policies

Please see the ALTINEX website at www.altinex.com for details on warranty and return policies.

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4. Technical Specifications

Specifications are subject to change. See www.altinex.com for up-to-date information.

Features/Description	MT115-111
Inputs	
CAT-5/6 Twisted Pair	(2) RJ-45 female
Output	
Video	(2) 15-pin HD female
Audio	(2) 3.5 mm jack
Compatibility	
Signal Types	ALTINEX Standard for Twisted Pair
Video Signal Resolutions	VGA through UXGA 480p through 1080i
Recommended Max. Cable Lengths *Note: Measurements made using ALTINEX low-skew cable, CB3150PV.*	VGA: 640x480@60Hz 900 ft (274 m) XGA: 1024x768@60Hz 700 ft (213 m) SXGA: 1280x1024@60Hz 650 ft (198 m) UXGA: 1600x1200@60Hz 600 ft (183 m)

Table 1. MT115-111 General

Mechanical	MT115-111
Enclosure Slots	One
Weight	0.5 lb (0.23 kg)
T° Operating	10°C-35°C
T° Maximum	50°C
Humidity	90% non-condensing
MTBF (calculations)	40,000 hrs (min.)

Table 2. MT115-111 Mechanical

Electrical	MT115-111
Input Signal	
CAT-5/6 Twisted Pair	Video/Sync/Audio Signals ALTINEX Standard
Audio Output Signal	
Gain	0 dB +/- 0.5 dB
Level	1.0 Vp-p max
Video Output Signal	
Video Signal	1.0 Vp-p max
Video Impedance	75 ohm
SYNC Signal	TTL (+/-)
Video Resolutions	VGA through UXGA 480p through 1080i
Power	*(from enclosure)*
+6V	0.600 A (3.6 W)
-6V	0.350 A (2.1 W)
Total Power Consumption	5.7 W max.

Table 3. MT115-111 Electrical

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5. About Your MT115-111

The MT115-111 provides a means of receiving computer or component video and audio signals over Twisted Pair-type (CAT-5) cable when used together with an ALTINEX Twisted Pair Video Transmitter, such as the MT115-110 or TP115-110.

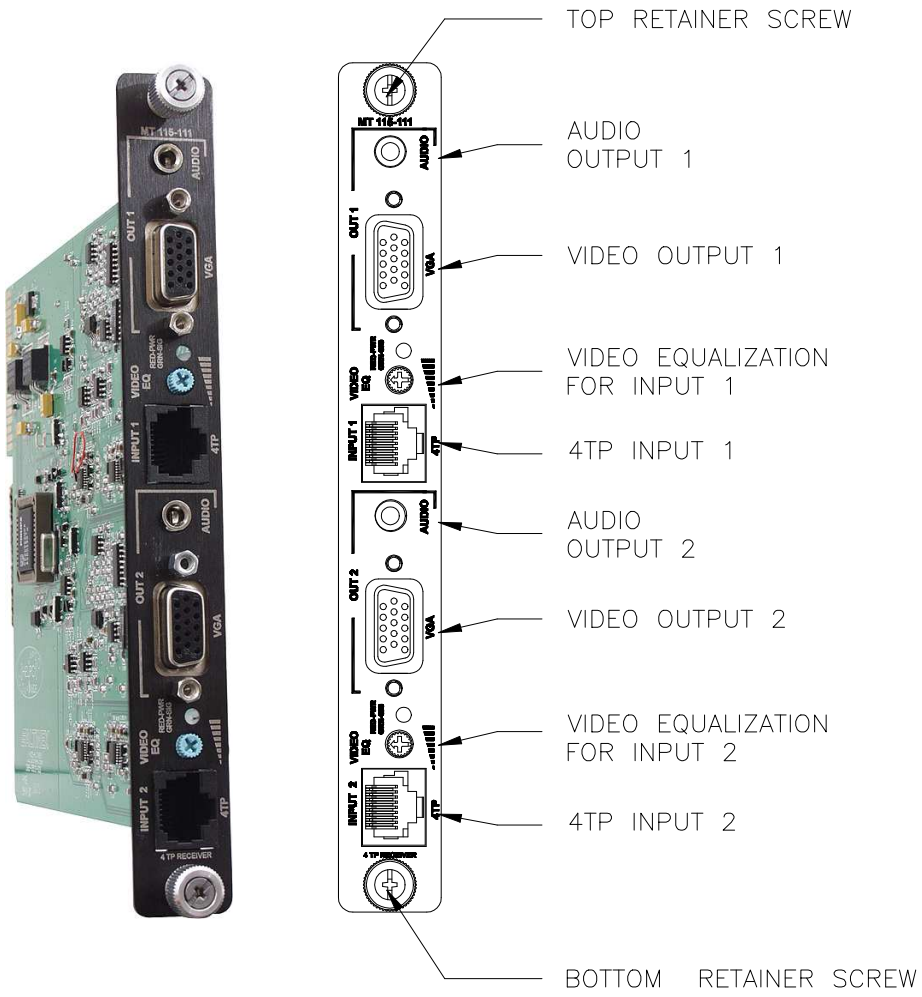
The MT115-111 offers two 15-pin HD female outputs and two 3.5 mm audio outputs, one for each of the inputs. The RJ-45 inputs receive the differential video and audio signals generated by the Twisted Pair transmitter. The MT115-111 also offers video equalization for long cable lengths. The equalization adjustment may be set for either hardware or software (RS-232) control.

Additionally, the MT115-111 offers the option for video gain adjustments through RS-232 control or the gain may be set to a value of one for hardware control.

As an added feature, the MT115-111 offers the option of selecting a Sync-on-Green (SOG) output. The SOG feature is a simple switch setting that may be set for SOG or standard RGBHV.

The latest generation of Twisted Pair devices uses an innovative, patented technology* developed by ALTINEX. The new signal processing technology allows transmitting and receiving fully equalized computer video signals, stereo, and audio signals over long distances

* US Patent 7,065,190



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6. Application Diagrams

Diagram 1: Typical Setup

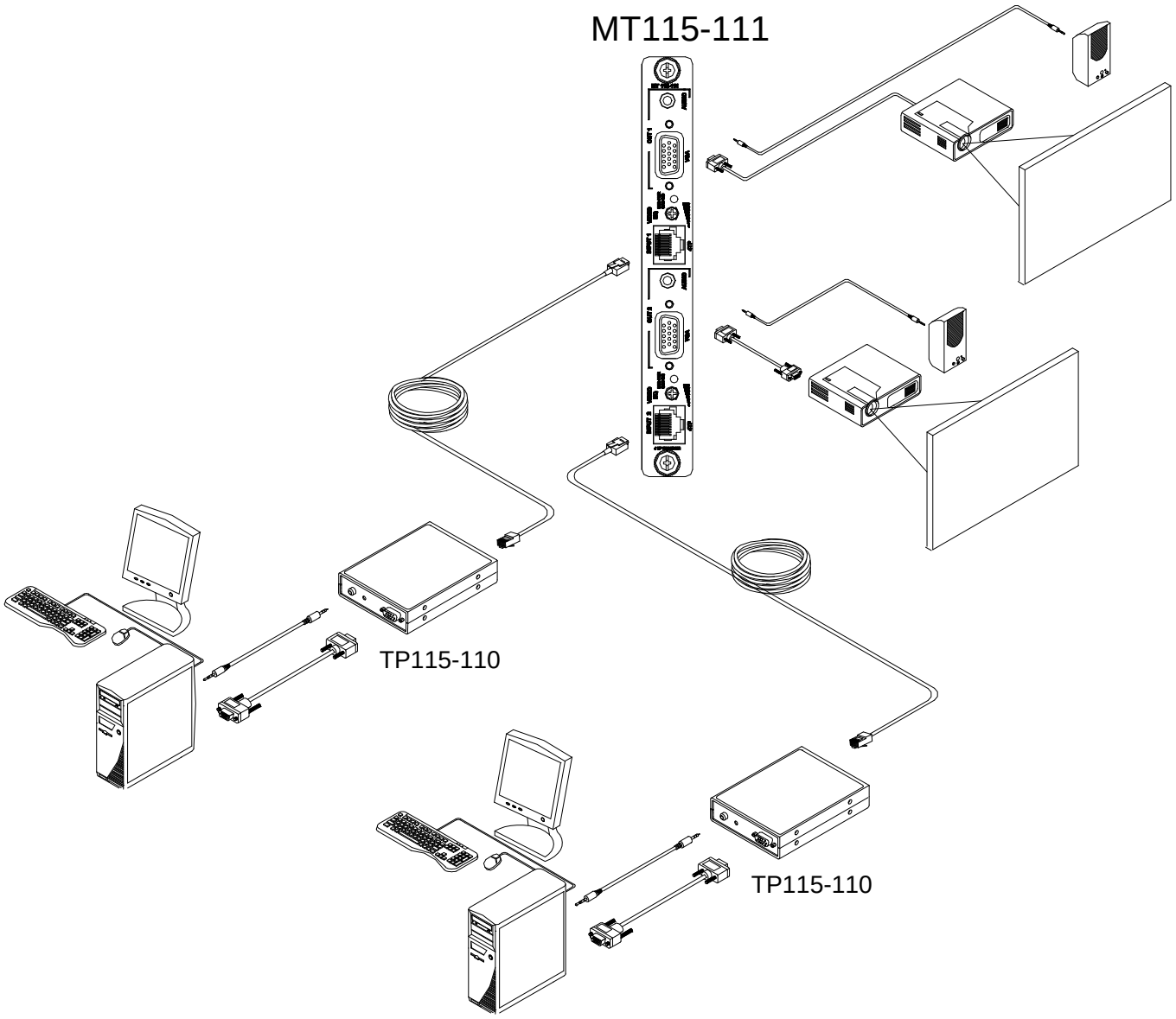

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Diagram 2: Internal View

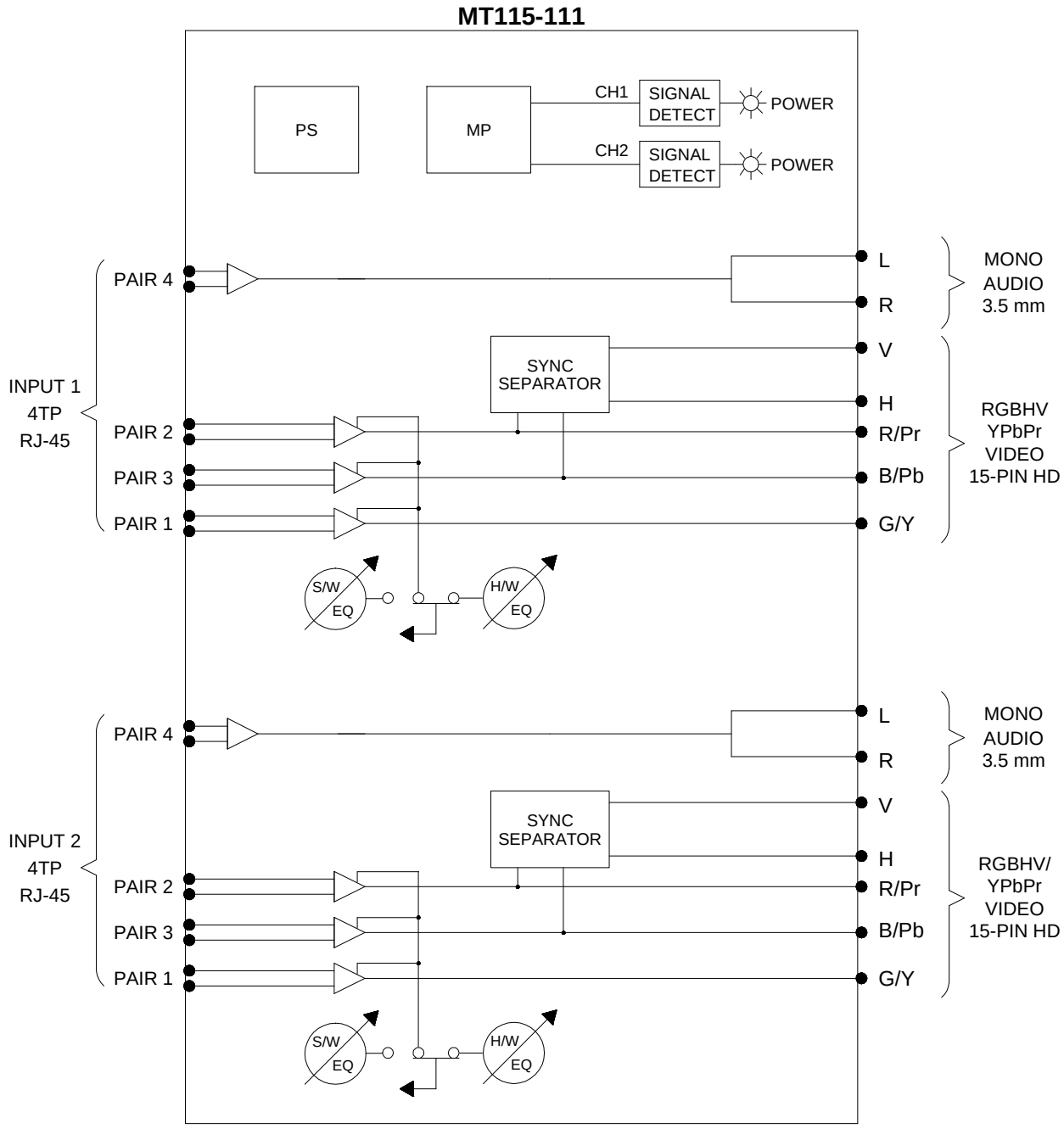

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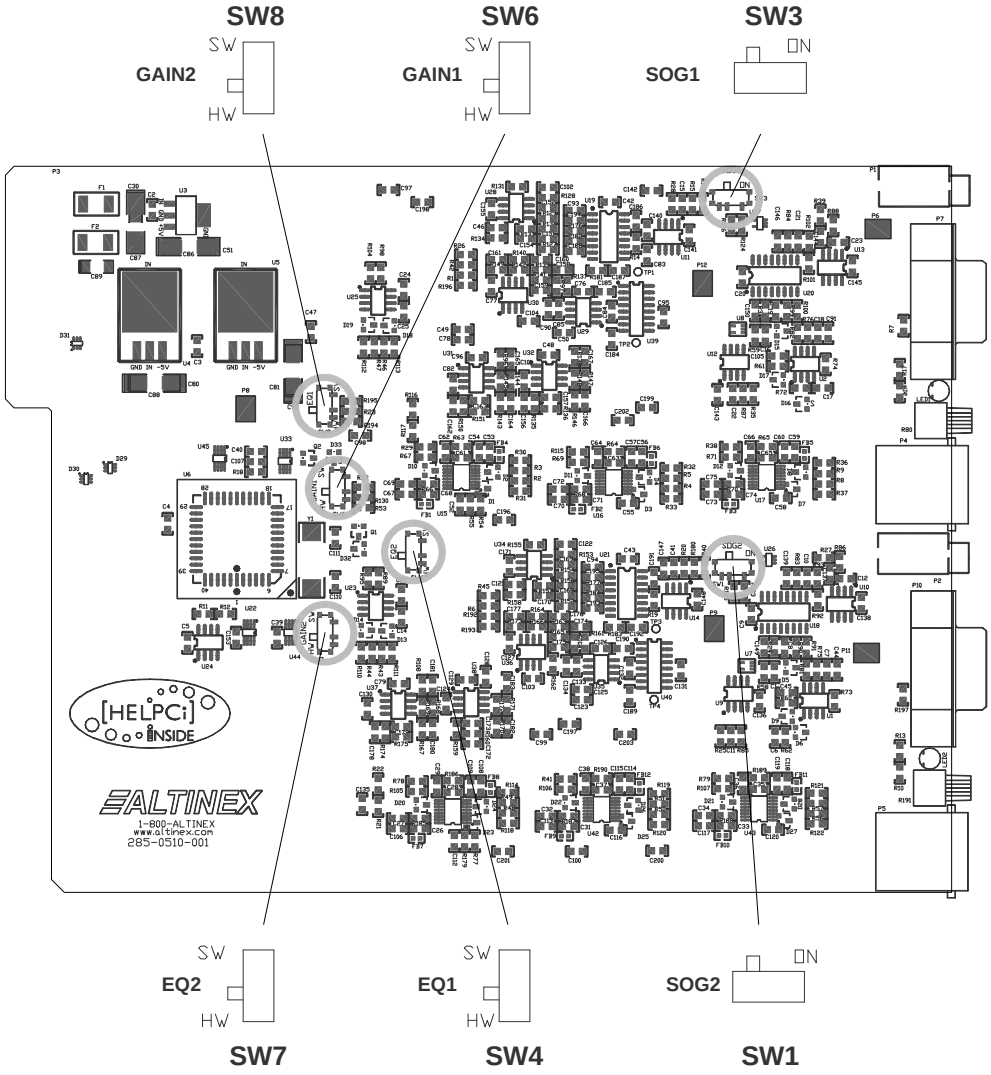
Diagram 3: Switch Settings



CONTROL	OUTPUT	CONTROL DESCRIPTION
Video Gain	1	Set SW6 to SW for software or HW for a fixed gain = 1.
	2	Set SW8 to SW for software or HW for a fixed gain = 1.
Equalization	1	Set SW4 to SW for software or HW for hardware.
	2	Set SW2 to SW for software or HW for hardware.
Sync-on-Green	1	Set SW3 to ON for a Sync-on-Green output.
	2	Set SW1 to ON for a Sync-on-Green output.

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7. Operation

7.1 RS-232 Control

The MT115-111 has many advanced remote control capabilities accessible through standard RS-232 communication. Control may be accomplished through a computer, control system, or any device capable of RS-232 communication.

7.1.1 RS-232 Interface

The control commands for the MT115-111 are in a simple ASCII character format.

1. Square brackets "[ ]" are part of the command.
2. Use uppercase letters for all commands.
3. Spaces are not legal characters.

The cards in a MultiTasker are capable of performing various functions, as well as providing feedback to the user or control system. Commands instruct a card to perform specific actions or request information from the card. Some commands do both simultaneously.

A command that instructs the card only to perform an action will generate feedback of "[ ]". The open bracket immediately followed by a closed bracket indicates the card received a valid command. If the command requested information from the card, the feedback generated by the card is the acknowledgement of having received a valid command. Invalid commands generate feedback that includes "ERR" plus an error code.

Example 1: [ERR001] Error number
Example 2: [ERRC04] Card error C4

Commands ending in "S" will be saved into memory. Commands not ending in "S" will still be executed, but will not be restored when the system is reset or powered off, then on.

7.2 Description of Commands

Each command consists of three parts: Function, Card ID, and Unit ID.

[Function , Card ID , Unit ID]

Example: [VERC3U2]

VER = Function

C3 = Card ID or Group ID

U2 = Unit ID (optional for Unit ID 0)

For Function, see a detailed explanation under each command description.

The card ID is a unique identifier. It is equal to the enclosure slot number, or it may be an assigned value. As the slot number, the value can range from 1-4 up to 1-20 depending on the enclosure. If the value is assigned, the ID may be a maximum of 99. Card ID 0 (C0) is used for the controller and cannot be reassigned.

The group ID is a number representing a group of cards defined with the [WR] command. When using the group ID, all cards in the group will perform the given instruction.

NOTE: In this guide, cards are referenced by their IDs (C1, C2...C99). Typically, the ID number will be equivalent to the slot number. Groups will be referenced by their IDs (G1-G8).

Changing the position of a card will significantly affect the commands recorded on software definitions or third-party control systems.

The unit ID has a range from U0 to U20. U0 should be used for single unit operation. If the ID is set to U0, each command may be used without Ui. Use the command [SETU0], as explained in the MT101-101 User's Guide.

Example:

[VERC3]: For U0

[VERC3Ui]: For ID other than U0

[VERC3]: Equivalent to [VERC3U0].

Command Organization

The RS-232 commands in this section are organized into the following 5 categories:

Basic Commands

Feedback Control

Card Control

Card IDs

Groups

See the Summary of Commands (Section 7.3) for one line descriptions of each command.

Basic Commands

The basic commands are used to provide general information about the card. These commands are most useful during the initial stages of setting up and operating the card.

1. **[VER]**

This command displays the software version and card type for the MT115-111 card.

Command Format: [VERCn]

Cn = Card ID (n = slot # from 1 to max slots)

Example:

An MT115-111 card is in slot 4. Send the command [VERC4], and the system will return feedback similar to the following:

[MT115-111 690-0231-001 C04]

MT115-111 = Card model number

690-0231-001 = Firmware version

C04 = Card ID

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2. **[C]**

This command receives the status of the card.

Command Format: [Cn]

Cn = Card ID (n = # from 1 to max slots)

Example:

There is one MT115-111 card in slot 4. Sending the command [C4] to the system will yield feedback similar to the following:

INPUT#1 VIDEO GAIN 4
EQUALIZATION 32
INPUT#2 VIDEO GAIN 4
EQUALIZATION 32

In this case, both card inputs are set for a video gain of 4 and an equalization of 32.

If there is no card in slot 4, sending the [C4] command will not return any feedback.

3. **[CnS]**

This command saves the card settings and displays the status. After the system is reset or powered off and on, the settings are restored.

Cn = card number

S = save configuration

Example:

Save the status by sending [C4S]. The feedback returned will be similar to the following:

INPUT#1 VIDEO GAIN 4
EQUALIZATION 32
INPUT#2 VIDEO GAIN 4
EQUALIZATION 32

SAVED

4. **[...S]**

This command will save the configuration command being sent in memory. When sending the command [EQ1=16C4S], after reset or power up, the equalization for Input 1 will be set to 16.

5. **[CLR]**

This command clears the card settings and returns it to the factory default values. The defaults gain setting is 4 and the default equalization setting is 32 for each input.

Command Format: [CLRCn]

Cn = Card ID (n = slot # from 1 to max slots)

Example:

In order to clear the card in slot 4, send the command [CLRC4]. The card will respond with the following feedback when complete:

FACTORY RESET COMPLETED

6. **[TEST]**

This command performs a series of tests on the internal memory and displays a pass message if successful. Otherwise, failures are indicated.

Command Format: [TESTCn]

Cn = Card ID (n = slot # from 1 to max slots)

Upon completion, the system will display the results. This feedback will be similar to the following:

MEMORY IC TEST RESULTS:
MEMORY IC PASS

7. **[HELP]**

This command displays information available for the MultiTasker interface commands.

Command Format: [HELPCn]

Cn = Card ID (n = # from 1 to max slots)

Example:

In order to display the RS-232 commands available for the MT115-111 card in slot 4, send the command [HELPC4]. The commands along with a brief description will be displayed in the Terminal Window.

Feedback Control

The next commands are a function of both the card and the front panel and allow flexibility over when and how card information is displayed.

8. **[FBD]**

This command turns feedback delay on or off. It is necessary when installing some newer cards in older systems. If the system does not receive all of the feedback from the card, the card may be communicating too fast. This command will slow down the card's communication rate.

Command Format: [FBDm]

m = Delay (0= no delay, 1= delay 100mS)

Example:

The command [HELPC4] is sent to the card in slot 4. Some of the HELP file is displayed on the screen, but most is missing. Send the command [FBD1] to slow down the rate at which the card sends feedback to the system.

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9. **[?]**

This command will return general information about the MultiTasker and cards installed in the unit.

Command Format: [?Ui]

Ui = Unit ID (i = from 0 to 9)

Example:

A MultiTasker with unit ID 1 has a front panel with part number MT101-101 and contains an MT103-122 and MT115-111. Send the command [?U1] and receive the following:

[(MT101-101U1)(MT103-122C01)(MT115-111C04)]

MT101-101U1 = Panel number/unit ID
MT103-122C01 = MT103-122 is in slot 1
MT115-111C04 = MT115-111 is in slot 4

10. **[?C]**

This command will return general information about the card and its status.

Command Format: [?Cn]

Cn = Card ID (n = # from 1 to max slots)

Example:

The MT115-111 in slot 4 has Inputs 1 and 2 set to their default values. Send the command [?C4] to receive feedback similar to the following.

[(MT115-111C04) (VR690-0231-001C04) (GN0404C04) (EQ3232C04)]

All feedback is enclosed in square brackets. Each data field in the status is in parentheses. The first two characters identify the status type and the last three are the card's ID.

MT115-111 = Card model number

VR690-0231-001 = Firmware version

GN0404 = Video gain levels

EQ3232 = Equalization settings

The video gain levels are displayed for both Input 1 and Input 2. The first 2 digits are the setting for Input 1 and the last 2 digits are the setting for Input 2. In this case, both are set to a level of 4 out of 11.

The equalization levels are displayed for both Input 1 and Input 2 as well. The first 2 digits are the setting for Input 1 and the last 2 digits are the setting for Input 2. In this case, both are set to a level of 32 out of 64.

11. **[STA1]**

This command enables automatic feedback from the front panel. The command affects any card with auto feedback capability, not just the MT115-111. The power on default or reset is STA0, off. For more details, see the [?Cn] command definition.

Command Format: [STA1]

Feedback Prefix Definitions:

MT Card Model Number

VR Firmware Revision

GN Video Gain Levels

EQ Equalization Levels

Example:

Command = [EQ1=1C4]

Feedback = (EQ0132C04)

EQ = Equalization

01 = Input 1 Equalization

32 = Input 2 Equalization

C04 = Card ID

12. **[STA0]**

This command disables automatic feedback from the card and front panel. The command affects all cards with auto feedback capability, not just the MT115-111. The default at power on or reset is STA0, OFF.

Command Format: [STA0]

Card Control

Card control commands allow the main functions of the card to be executed over the RS-232 bus, or from the front panel's programmable keys.

13. **[EQ]**

This command displays the equalization setting for an input and selects that input for adjustment using the [+] and [-] commands.

Command Format: [EQmCn]

m = Input # (m = 1 or 2)

Cn = Card ID (n = slot # from 1 to max slots)

Example:

Display the equalization setting for Input 1 of C4, then increase the equalization level by 3 from a starting value of 12.

Send the command [EQ1C4] and the current setting for Input 1 will be displayed.

[12]

Next, send the commands [+], [+], and [+] to increase the setting by 3. Send the [EQ] command again to receive new value.

[15]

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14. **[EQ=]**

This command sets the equalization for an input to a value specified by the user.

Command Format: [EQm=xCn]

m = Input # (m = 1 or 2)

x = Equalization level (m = # from 1 to 64)

Cn = Card ID (n = slot # from 1 to max slots)

Example:

Set the equalization on Input 2 of C4 to a value of 32 by sending the command [EQ2=32C4]. The card will respond with feedback of "[ ]" once the command is executed.

15. **[GAIN]**

This command displays the gain setting for an input and selects that input for adjustment using the [+] and [-] commands. A gain setting of 4 is equivalent to unity gain.

Command Format: [GAINmCn]

m = Input # (m = 1 or 2)

Cn = Card ID (n = slot # from 1 to max slots)

Example:

Display the gain setting for Input 2 of C4, then decrease the gain level by 3 from a starting value of 10.

Send the command [GAIN2C4] and the current setting for Input 1 will be displayed.

[10]

Next, send the commands [-], [-], and [-] to decrease the setting by 3. Send the [GAIN] command again to receive new value.

[7]

16. **[GAIN=]**

This command sets the gain level for an input to a value specified by the user. A gain setting of 4 is equivalent to unity gain.

Command Format: [GAINm=xCn]

m = Input # (m = 1 or 2)

x = Gain level (m = # from 1 to 11, 4 = unity)

Cn = Card ID (n = slot # from 1 to max slots)

Example:

Set the gain level for Input 2 of C4 to a value of 4 by sending the command [GAIN2=4C4]. The card will respond with feedback of "[ ]" once the command is executed.

ID Commands

The default card ID is the same as the card slot number. The next several commands allow the user to change the card ID to a value other than the slot number. Once the ID is changed, moving the card to another slot will not change the card ID. If a card in slot 4 is set to ID 1, then moved to slot 10, its ID will remain 1. The [RSI] command forces each installed card to take its slot number as its ID number, regardless of the slot in which it is installed.

Some cards require more than one slot in the MultiTasker system. As an example, some matrix switcher cards require 4 slots. If 5 of these cards are installed, they would be numbered C4, C8, C12, C16, and C20. Changing the ID allows the user to define the cards as C1, C2, C3, C4, and C5.

Another use for changing the card ID is to be able to use multiple systems without having to set each unit to a different unit ID. All systems may be left as unit ID 0 for ease of programming. The cards in the first unit may be numbered 1-10 and in the second unit 11-20.

17. **[RSI]**

This command resets the card IDs in the system. After sending this command, each card ID in the system will match the slot number of the card. If the card is moved to another slot, its ID number will be the new slot number.

Command Format: [RSI]

Example:

Send the command [RSI] to the system with

Unit ID 0. The card in slot 1 will have ID 1, the card in slot 2 will have ID 2, and so on. If the card in slot 1 is then moved to slot 4, the card ID will then be 4.

18. **[SIDn]**

This command sets all the cards installed in the MultiTasker system to the same card ID. After sending this command, all cards will be addressed with the same ID. Use caution when sending this command to a system with multiple board types.

Command Format: [SIDn]

n = Card ID (n = # from 1 to 99)

Example:

Send the command [SID1] to the system. All the cards in the system now have ID 1. Any commands that are sent to card ID 1 will be received and executed by each card.

19. **[SIDnCi]**

This command sets the card ID of a single card to a number from 1 to 99.

Command Format: [SIDnCi]

n = Card ID (n = # from 1 to 99)

Ci = Slot Number (i = # from 1 to max slots)

Example:

Send the command [SID50C10] to set the ID of the card in slot 10 to an ID of 50.

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20. **[SID+]**

This command sets the card ID of all cards in a system to their slot number plus the offset value.

Command Format: [SID+n]

n = Offset amount (n = # from 0 to 99)

The maximum card ID is 99, so subtract the highest slot number from 99 to find the maximum offset. For example, in an 8 slot enclosure, the maximum offset would be 91. The slot number (8) plus the offset (91) equals 99.

Example:

There are two 20-slot enclosures to be connected together during normal operation. The first unit will use the default IDs where the card ID is equal to the slot number. The second unit will have the same unit ID, but each card ID will be offset by 20.

Connect the computer to the second unit only and send the command [SID+20] to set the ID of all the cards in the second enclosure to their slot number plus 20, then reconnect both units.

The cards in the first unit will be referenced as card IDs 1-20 and the cards in the second unit will be referenced by card IDs 21-40.

21. **[RSN]**

This command displays the slot number of a card with a specified ID number. If more than one card has the same ID, each slot number will be displayed.

Command Format: [RSNCi]

Ci = Card ID (i = # from 1 to 99)

Example:

The card in slot 4 takes up four slots in the enclosure. Its ID was set to 1 since it is the first card installed in the system, reading from left to right. Send the command [RSNC1] to find the slot number of this card. The system responds with the following feedback:

[4]

Group Commands

Group commands allow several cards with the same functions to be controlled simultaneously with a single command. Up to 8 groups (G1-G8) may be defined. These commands apply to all cards, not only the MT115-111.

22. **[WR]**

This command adds cards to a group. In MultiTasker systems with audio and video cards, the groups are typically as follows:

Group 1 = Video Cards
Group 2 = Audio Cards
Group 3 = Video and Audio Cards

Command Format: [WRCn1Cn2…Gk]

Cn = Card ID (n = slot # from 1 to max slots)

Gk = Group ID (k = # from 1-8)

Example:

Add C2, C4, and C6 to G5 by sending the command [WRC2C4C6G5]. After executing this command, G5 will consist of C2, C4, and C6.

Now add C8 to G5 by sending [WRC8G5]. C8 is added to G5, and G5 is not overwritten. View the contents of G5 by sending [RDG5] and receiving the following feedback:

[G5=C2C4C6C8]

23. **[RMC]**

This command removes one or more cards from a group.

Command Format: [RMCn1Cn2…Gk]

Cn = Card ID (n= # from 1 to max slots)

Gk = Group ID (k = # from 1-8)

Example:

G5 consists of C2, C4, C6, and C8. Remove C6 and C8 by sending [RMC6C8G5]. View the contents of G5 by sending [RDG5] and receiving the following feedback:

[G5=C2C4]

24. **[RMG]**

This command deletes one or all groups.

Command Format: [RMGk]

Gk = Group ID (k = # from 1-8, * for all)

Example:

Remove all cards from G52 by sending [RMG5]. The system will return the following feedback:

[G5=0]

Example 2:

Remove all cards from all groups, effectively deleting all groups, by sending [RMG*]. The system will return the following feedback:

G1-G8: EMPTY

25. **[RD]**

This command reads and then displays the members in a group.

Command Format: [RDGk]

Gk = Group ID (k = # from 1-8)

Example:

C2, C4, and C6 make up G5. Read the member data for G5 by sending the command [RDG5]. The system will return feedback as follows:

[G5=C2C4C6]

The feedback shows G5 and then the cards that make up G5. In this case, G5 includes C2, C4, and C6.

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7.3 Summary of Commands

Basic Commands

1)	[VER]	Display firmware version
2)	[C]	Display card status
3)	[CnS]	Save card settings
4)	[..S]	Save current setting
5)	[CLR]	Reset card to defaults
6)	[TEST]	Test internal memory ICs
7)	[HELP]	Display available commands

Feedback Commands

8)	[FBD]	Feedback delay on/off
9)	[?]	Display system cards
10)	[?C]	Display card information
11)	[STA1]	Auto feedback on
12)	[STA0]	Auto feedback off

Card Commands

13)	[EQ]	Select equalization adjustment
14)	[EQ=]	Set equalization level
15)	[GAIN]	Select video gain adjustment
16)	[GAIN=]	Set video gain level

ID Commands

17)	[RSI]	Reset Card IDs to defaults
18)	[SIDn]	Set all Card IDs
19)	[SIDnCi]	Set one Card ID
20)	[SID+]	Set all Card IDs to an offset
21)	[RSN]	Display card slot number

Group Commands

22)	[WR]	Add card(s) to a group
23)	[RMC]	Remove card(s) from group
24)	[RMG]	Delete group
25)	[RD]	Display group members

7.4 Menu Mode

Menu Mode commands allow virtually the same functionality as programming commands. Unlike the programming commands in the previous sections, menu commands prompt the user to select from a list of available options. The system then responds based upon selections made by the user.

7.4.1 Menu Command Definitions

Refer to section 7.2 for details on card functions and examples. Following is a cross-reference between menu mode and programming commands.

Menu	Command
Equalization	[EQ]
Gain	[GAIN]
Save	[CnS]
Reset	[CLR]
Version	[VER]
Status	[C]
Help	[HELP]

7.4.2 Using Menu Mode

Do NOT press any keys except those relating to the current menu. If you press the ENTER key after entering a letter or digit, the original list of systems will be displayed.

1. In order to enter Menu Mode, the system needs to be connected to a computer running RS-232 control software.
2. In the Terminal Window, press the ENTER key on the keyboard.
3. The system checks all MultiTaskers on the RS-232 bus and displays a list of available systems.

   Example: 1: U1
   2: U2
   3: U3
4. Enter the ID number of the desired system. In the example above, enter a "1" for the MultiTasker with unit ID 1.
5. The system then interrogates all the cards available in its enclosure and displays a list of available cards.

   Example: 01: MT103-122
   02: MT103-123
   04: MT115-111
6. Enter the 2-digit ID and a menu for the card will be displayed. In the example above, enter "04" for the MT115-111.
7. The system will prompt for selections specific to the selected card.
8. Read each menu carefully, and continue selecting keys as prompted.

Note: Menus for data entry have two prompts: "Key=" and "ESC" (escape). Press the escape key to return to the previous menu.

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7.4.3 Menu Types

1. Main Menu

   The first menu displayed after selecting the card is the Main Menu. This menu provides access to the key functions related to the card. Press the key representing the menu item for access and a sub menu will appear.

2. Sub Menus

   Each menu item will display either a sub menu, or a list of options. Press the key corresponding to the desired choice.

7.4.4 MT115-111 Menus

Following are the menus available to the MT115-111. The first menu is the Main Menu only. The second listing is an expanded view of the card's sub menus.

The expanded menu contains values that indicate the current setting or value of a parameter. The value is usually in parentheses, or otherwise indicated at the top of a sub menu. In some cases, additional comments are provided for clarification and are not part of the menu feedback.

MT115-111 Main Menu

1: EQUALIZATION CONTROL
2: GAIN CONTROL
3: SAVE CONFIGURATION
4: RESET CONFIGURATION TO DEFAULT
5: VERSION
6: STATUS
7: HELP
ESC: GO BACK

MT115-111 EXPANDED MENUS

1: EQUALIZATION CONTROL
  EQUALIZATION CONTROL
  1: INPUT#1 1
    EQUALIZATION CONTROL INPUT#1 (32)
    1: INCREASE EQ LEVEL
    2: DECREASE EQ LEVEL
  2: INPUT#2 32
    EQUALIZATION CONTROL INPUT#2 (32)
    1: INCREASE EQ LEVEL
    2: DECREASE EQ LEVEL

2: GAIN CONTROL
  GAIN CONTROL
  1: INPUT#1 4
    GAIN CONTROL INPUT#1 (4)
    1: INCREASE GAIN LEVEL
    2: DECREASE GAIN LEVEL
  2: INPUT#2 4
    GAIN CONTROL INPUT#2 (4)
    1: INCREASE GAIN LEVEL
    2: DECREASE GAIN LEVEL

3: SAVE CONFIGURATION
  SAVE CURRENT CONFIGURATION?
  1: YES
  2: NO

4: RESET CONFIGURATION TO DEFAULT
  RESET CARD TO FACTORY DEFAULT?
  1: YES
  2: NO

5: VERSION

This selection displays the card firmware version and then redisplays the Main Menu. It is equivalent to the [VER] command.

6: STATUS

This selection displays the card status and then redisplays the Main Menu. It is equivalent to the [Cn] command.

7: HELP

This selection displays a list of commands available for the MT115 111 along with a brief description.

ESC

This selection returns you to the parent menu with the listing of all cards.

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7.4.5 Menu Mode Examples

All Menu Mode examples assume an MT115-111 is installed in slot 4 of unit ID 1.

NOTE: The communication software you use may echo each character as it is typed when entering numeric values (not selecting menu items). For example, entering a value of 03 may appear as 0033 on the screen.

1. Set Video Equalization

Follow the keystrokes below to set the video equalization for Input 1 to 16 with a starting level of 12.

Enter	List available systems
1	Select unit ID 1
04	Select MT115-111 in slot 4
1	Select EQUALIZATION CONTROL
	The current gain level will be displayed in the menu, for example 12.
1	Select INPUT #1 for adjustment
1111	Select increment 4 times
	After each increase, the new level will be displayed in the menu.
ESC	Return to EQUALIZATION Menu
ESC	Return to the Main Menu

2. Display Card Status

Start from the MT115-111's Main Menu and follow the keystrokes below.

6	Display card status
NOTE:	The status will be displayed, followed by the Main Menu being redisplayed.

8. Troubleshooting Guide

We have carefully tested and found no problems in the supplied MT115-111 unit. However, we would like to offer the following suggestions:

8.1 LEDs Are Off

Cause 1: There is no power to the card.

Solution: Make sure the card is plugged all the way into the enclosure. If an LED is still not on, see Cause 2.

Cause 2: The card is not initialized.

Solution: Turn the system power off and then back on again. If one of the LEDs is still not on, please call ALTINEX at (714) 990-2300.

8.2 Display is too Bright

Cause 1: The software gain is too high.

Solution: Set the gain control to 4 using the RS-232 commands in Section 7.2. If the display is still too bright, see Cause 2.

Cause 2: The gain switch is not set correctly.

Solution: Set the gain control switch to the HW (hardware) position for a fixed gain of one. If the display is still too bright, see Cause 3.

Cause 3: The receiver video gain is too high.

Solution: Set the gain control switch to the HW (hardware) position for a fixed gain of one. If the display is still too bright, please call ALTINEX at (714) 990-2300.

8.3 No Display

Cause 1: The source has a problem.

Solution: Check the source and make sure that there is a signal present and all source connections are correct. If the source is working and there is still no display, see Cause 2.

Cause 2: Signal is bad or missing.

Solution 1: Make sure the input is connected to the TP transmitter. If there is still no display, see Solution 2.

Solution 2: Bypass the MT115-111 and TP transmitter and connect the output of the source directly to the monitor. If the display is good, then call ALTINEX at (714) 990-2300. If there is still no display, see Cause 3.

Cause 3: Cable connections are incorrect.

Solution: Make sure the cables are properly connected. Also, make sure that the continuity and wiring are good. If there is still no display present, see Cause 4.

Cause 4: The display has a problem.

Solution: Make sure the display is powered applied and turned on. If there is still no display, please call ALTINEX at (714) 990-2300.

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